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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,717	01/19/2005	Andrea Giraldo	NL 020649	9223

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EXAMINER

CARTER III, ROBERT E

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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10/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/521,717

Applicant(s)

GIRALDO ET AL.

Examiner

Robert E. Carter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08/17/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 2-10, 12 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 11, 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The amendment filed on 08/17/2007 has been entered and considered by the examiner.

Election/Restrictions

1. Applicant's election with traverse of species 5, Fig. 2E, claims 1, 11, 14-17 in the reply filed on 08/17/2007 is acknowledged. The traversal is on the ground(s) that "The office action cites nothing in the law or PTO rules in support of the requirement for election of species". This is not found persuasive because 35 U.S.C 112 requires applicant to elect a single disclosed species if the application contains independent or distinct species. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence not of record showing the species to be obvious variations or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C 103(a) of the other species.

The requirement is still deemed proper and is therefore made FINAL.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

3. Claim 14 is objected to because of the following informalities: Use of parentheses for purposes other than referencing parts in the figures. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima (Japanese Publication # 04-039894) in view of Lindmayer (US Patent # 4,748,375).

As for claim 1, Kawashima (Figs. 1, 3) discloses:

An electroluminescent display comprising at least a first display pixel (p) and a second display pixel (pixel next to pixel p) formed on a substrate (1), said first and second

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display pixels comprising at least:

first electrode (2) deposited on or across said substrate,

an electroluminescent layer (4p), and

a second electrode (6),

wherein said first display pixel and said second display pixel are separated by a region comprising at least one insulating structure (5a, 10), wherein said insulating structure is adapted to suppress the output of light at said second display pixel which originates from at least said first display pixel (entire English abstract).

Kawashima does not teach a second reflective electrode to reflect light from the first display pixel towards the second display pixel.

In the same field of endeavor (i.e. electroluminescent displays) Lindmayer discloses:

a second reflective electrode (24, Col 5, lines 7-10)

The combine teachings of Kawashima and Lindmayer teach:
wherein said insulating structure is adapted to suppress the output of light at said second display pixel reflected at said second reflective electrode, which light originates from light incident from at least said first display pixel and/or said substrate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the second electrode in Kawashima with the reflective second electrode of Lindmayer to increase the light output (Lindmayer, Col. 5, lines 9-12).

As for claim 15, Kawashima teaches:

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An electronic device comprising an electroluminescent display as claimed in claim 1

(last line of English abstract).

7. Claims 11, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima in view of Lindmayer as applied to claims 1 and 15 above, and further in view of Yamazaki et al. (US Patent # 6,515,310).

As for claim 11, Kawashima as modified by Lindmayer does not teach the insulating structure comprising light-absorbing particles.

In the same field of endeavor (i.e. electroluminescent displays) Yamazaki et al. (Fig. 3A) discloses:

wherein said insulating structure (301) comprises light-absorbing particles (Col. 4, lines 5-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light absorbing particles of Yamazaki et al. in the insulating structure of Kawashima as modified by Lindmayer to prevent the EL device from acting like a mirror, and decrease the manufacturing cost (Yamazaki et al. Col. 1, line 66-Col. 2, line 5).

As for claim 16, Yamazaki et al. teaches:

wherein the light-absorbing particles comprise carbon particles (Col. 4, lines 10-12).

As for claim 14, Yamazaki et al. teaches:

wherein said insulating structure is adapted in accordance with at least one of:

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(5) said insulating structure comprises light-absorbing particles (Col. 4, lines 10-12);

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima in view of Lindmayer and Yamazaki et al. as applied to claims 11, 14, and 16 above, and further in view of Yamazaki et al. (US Patent # 6,739,931) hereinafter Yamazaki '931.

As for claim 17, Kawashima teaches:

wherein the insulating structure comprises at least one edge along said second display pixel, said edge comprising at least one slanting side wall having an angle ϕ towards said second display pixel.

Kawashima as modified by Lindmayer and Yamazaki et al. does not teach the sidewall having an angle $\phi > (\theta_2^{\max} + \theta_2^{\min}) / 2$.

In the same field of endeavor (i.e. electroluminescent displays) Yamazaki '931 (Fig. 2A) discloses:

at least one slanting side wall (108) having an angle ϕ (θ) towards said second display pixel (100), wherein said angle ϕ is larger than $(\theta_2^{\max} + \theta_2^{\min}) / 2$, with θ_2^{\max} and θ_2^{\min} being the maximum and minimum angles of refraction at the interface of the substrate and the insulating structure, respectively (Col. 4, lines 15-20 disclose the angle θ must be between 35-70 degrees. Since the minimum theoretical angle θ can be is 0 degrees, we find that using the imposed maximum of 70 degrees, θ must be greater

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than $(70 + 0) / 2 = 35$. Therefore the disclosed range of 35-70 degrees meets the limitations of claim 17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the edge angle range of 35-70 degrees in Yamazaki '931 to the edge of the insulating structure of Kawashima as modified by Lindmayer and Yamazaki et al. to prevent discontinuity in the EL film (Yamazaki '931 Col. 2, lines 51-56).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Segawa (US Patent # 6,674,244) discloses an EL display with a light attenuating insulating film.

Nakayama et al. (US Patent # 6,563,261) discloses an EL display with a total internal reflecting edge

Hosokawa et al. (US Patent # 6,157,127) discloses an EL display with an angle on the edge of the insulating film

DeSouza (US Patent # 4,684,353) discloses an EL display with a reflective rear electrode.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert E. Carter whose telephone number is 571-270-3006. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on 571-272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

REC


CHANH D. NGUYEN
SUPERVISORY PATENT EXAMINER